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TO: U.S. Patent and Trademark Office  
Office of Initial Patent Examination's Filing Receipt  
Corrections

Fax #703-746-9195

FROM: Joan L. Simunic Reg. No. 43,125

DATE: April 28, 2004

PAGES: 6 in total (including cover sheet)

RE: U.S. Application No. ~~10/758,522~~ 10/758,552

Remarks: This facsimile is to request corrected filing receipt to include applicant Michael W. Balakos

Enclosed are:

- (1) Cover Sheet
- (2) PTO/SB/96 (Statement under 37 CRR 3.73(b))
- (3) Copy of first two pages of original application
- (4) Copy of Filing Receipt

CERTIFICATE OF FACSIMILE TRANSMISSION UNDER 37 CFR 1.8

I hereby certify that this paper is being facsimile transmitted to the Patent and Trademark Office on the date shown below.

Donna Ferrill  
Person Signing

  
Signature

  
Date

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
Washington, D.C., United States of America

In re Application of WAGNER, Jon

Serial No.: 10/758,552

Filed: January 15, 2004

For: CATALYST FOR PRODUCTION OF  
HYDROGEN

**FILING RECEIPT CORRECTION**

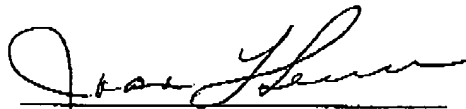
Commissioner of Patents and Trademarks  
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Washington, D.C. 20231

Dear Sir:

In reference to the Filing Receipt 12402000 with Confirmation No 5985 for Patent Application 10/758,552 filed on January 15, 2004 entitled "CATALYST FOR PRODUCTION OF HYDROGEN" mailed on 04/20/04, please be advised the name Michael W. Balakos was not listed as an applicant(s). As did not file the declaration and assignment with the original filing of the application and we have not received the Notice to File Missing Parts, I include a copy of Form PTO/SB/96 (Statement under 37 CFR 3.73(b)) that was filed with the original application as well as the first two pages of the application.

**Michael W. Balakos, Louisville, Kentucky should be listed as an applicant**

Respectfully submitted,



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*add MWD not listed* Page 1 of 2

## UNITED STATES PATENT AND TRADEMARK OFFICE

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APPL NO.	FILING OR 371 (c) DATE	ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLMS	IND CLMS
10/758,552	01/15/2004	1725	770	20031231-001		20	3

34160  
 SUD-CHEMIE INC.  
 1600 WEST HILL STREET  
 LOUISVILLE, KY 40210

CONFIRMATION NO. 5985

## FILING RECEIPT



\*OC000000012402000\*

Date Mailed: 04/20/2004

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections, facsimile number 703-746-9195. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

## Applicant(s)

Jon P. Wagner, Louisville, KY;  
 Aaron L. Wagner, Louisville, KY;  
 Yeping L. Cai, Louisville, KY;

*Michael W. Galanos, Louisville, Kentucky (KY)*

## Domestic Priority data as claimed by applicant

This application is a CIP of 10/108,814 03/28/2002

## Foreign Applications

If Required, Foreign Filing License Granted: 04/19/2004

Projected Publication Date: 07/29/2004

Non-Publication Request: No

Early Publication Request: No

## Title

Catalyst for production of hydrogen

## Preliminary Class

PTO/SB/96 (08-03)

Approved for use through 07/31/2006. OMB 0651-0031  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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**STATEMENT UNDER 37 CFR 3.73(b)**Applicant/Patent Owner: Jon P. Wagner; Yeping Cai; Aaron L. Wagner; Michael W. BalakosApplication No./Patent No.: N/AFiled/Issue Date: January 15, 2004Entitled: CATALYST FOR PRODUCTION OF HYDROGENSud-Chemie Inc.a Delaware Corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

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The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

January 15, 2004

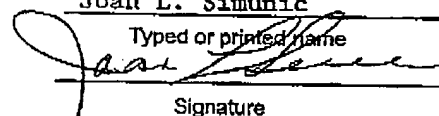
Date

502-634-7373

Telephone number

Joan L. Simunic

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Sud-Chemie Inc

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**  
**Washington, D.C., United States of America**

-----  
**UNITED STATES PATENT APPLICATION**

**for**

**CATALYST FOR PRODUCTION OF HYDROGEN**

**by**

**Jon P. Wagner**

**Yeping Cai**

**Aaron L. Wagner**

**Michael W. Balakos**

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Page 1

Title: Catalyst for Production of Hydrogen  
Inventors: Wagner, et al.

Page 2  
Attorney Docket 20031231-001

## CATALYST FOR PRODUCTION OF HYDROGEN

### Cross-Reference to Related Applications

The present application is a continuation-in-part application related to U.S. Application Serial  
5 Number 10/108,814 filed on March 28, 2002 and incorporated herein in its entirety by reference.

### Background

The present development is a high efficiency catalyst for use in the water-gas-shift reaction  
10 suitable for production of hydrogen. The catalyst includes a Group VIII or Group IB metal and a transition metal promoter on a ceria-based support. The transition metal promoter is selected from the group consisting of rhenium, niobium, silver, manganese, vanadium, molybdenum, titanium, tungsten and a combination thereof. The support may further include gadolinium, samarium, zirconium, lithium, cesium, lanthanum, praseodymium, manganese, titanium, tungsten, neodymium or a combination thereof.

15 Large volumes of hydrogen gas are needed for a number of important chemical reactions and since the early 1940's the water-gas-shift (WGS) reaction has represented an important step in the industrial production of hydrogen. For example, the industrial scale water-gas-shift reaction is used to increase the production of hydrogen for refinery hydro-processes and for use in the production of bulk chemicals such as ammonia, methanol, and alternative hydrocarbon fuels.

20 The hydrogen gas is produced from the reaction of hydrocarbons with water or oxygen and from the reaction of carbon or carbon monoxide with water. The hydrocarbons are typically reacted with water and/or oxygen in the presence of supported nickel catalysts and at high temperatures to produce a combination of carbon oxides and hydrogen gas, commonly referred to as synthesis gas or syngas (see equations 1 - 3):



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